In the Claims:

1. (Currently amended) Method for calibrating a 3D image ~~sensors,~~ sensor, said ~~sensors~~ sensor comprising:

a modulated light source emitting a modulated emitted signal into [[~~the~~]] a viewed scene; and

a receiving array ~~consisting of~~ having a plurality of pixels and being adapted to receive detected radiation that is reflected from the viewed scene, ~~said pixels~~ and respectively generating a received signal for every pixel individually from a demodulation signal ~~comprising~~ having a predetermined phase position of a modulation thereof with respect to the emitted signal and from the detected radiation reflected by the viewed scene, said received signal being used as a measure of distance based on a transit time of the modulated emitted signal emitted into the viewed scene and the arising detected radiation that is reflected from the viewed scene and received by the receiving array;

characterized in that

for ~~the purpose of~~ performing a calibration, the entire receiving array is exclusively illuminated with a first modulated calibrating radiation ~~comprising~~ having a first phase position of a modulation thereof which is at least largely ~~homogenous~~ homogeneous for all of the pixels with respect to the demodulation signal, and that the ~~occurring~~ received signals [[~~of~~]] generated by the individual pixels

during illumination with the calibrating radiation are evaluated.

2. (Currently amended) Method according to claim 1, characterized in that [[~~the~~]] a relative modulation phase deviation between the pixels is detected in the evaluating of the received signals for the calibration.

Claims 3 to 9 (Canceled).

10. (Currently amended) Method according to claim 1, characterized in that at least a second calibrating measurement is carried out with a second modulated calibrating radiation ~~comprising~~ having a second phase position of a modulation thereof between the second calibrating radiation and the demodulation signal, said second phase position differing from the first phase position.

11. (Currently amended) Method according to claim 10, characterized in that the ~~phase relation~~ respective first phase position or the respective second phase position is freely selectable and ~~preferably~~ is adjusted along a predetermined characteristic determined for [[~~the~~]] a respective number of ~~emitting processes.~~ calibrating measurements that are carried out.

12. (Currently amended) Method according to claim 1, characterized in that the calibrating radiation is generated by a modulated further light source other than said modulated light source, wherein said further light source exclusively ~~illuminating~~ illuminates the entire receiving array at defined intervals.

13. (Currently amended) Method according to claim 1, characterized in that the calibrating radiation is generated by the ~~already existing~~ modulated light source, wherein the calibrating radiation is deflected from the modulated light source to the receiving array and [[~~the~~]] an external ~~connection~~ light path for illuminating the scene by the modulated light source is interrupted.

14. (Currently amended) Method according to claim 1, characterized in that, for the calibration, a [[~~the~~]] pixel-individual phase deviation is detected for each one of the pixels from the respective received signals that are evaluated at [[~~the~~]] defined intervals, and the respective pixel-individual phase deviation is recorded in a look-up table for [[~~every~~]] each said pixel individually, and the respective pixel-individual phase deviation of each said pixel is applied for correcting [[~~the~~]] 3D image information of the viewed ~~scenes.~~ scene.

Claims 15 and 16 (Canceled).

17. (New) Method according to claim 10, wherein the second phase position differing from the first phase position is caused by correspondingly delaying the second calibrating radiation relative to the first calibrating radiation or by correspondingly delaying the demodulation signal, and wherein an actual physical transit distance respectively of both the first and second calibrating radiations to the receiving array remains the same.

18. (New) Method according to claim 1, wherein the distance to the viewed scene for a given one of the pixels is respectively measured based on the transit time which is determined from the received signal that is generated by mixing the demodulation signal with a pixel signal representing the detected radiation so as to determine a phase position of a modulation of the detected radiation relative to a modulation of the modulated emitted signal.

19. (New) A method of operating a 3D image sensor having a receiving array that includes a plurality of pixels, said method comprising the steps:

a) in a calibration mode:

a1) generating a first modulated calibrating radiation and a calibrating demodulation signal, both having a modulation with the same modulation frequency,

a2) illuminating said pixels of said receiving array with said first modulated calibrating radiation having a

first phase position of said modulation thereof being essentially homogeneous across all of said pixels, and

a3) demodulating respective calibration output signals of said pixels with said calibrating demodulation signal to produce respective demodulated calibration output signals of said pixels, and determining respective pixel-individual deviations of said demodulated calibration output signals relative to one another or relative to a nominal standard value; and

b) in an operation mode:

b1) generating a modulated scene illuminating radiation and an operating demodulation signal, both having a modulation with the same modulation frequency,

b2) illuminating a 3D scene with said modulated scene illuminating radiation, and reflecting said modulated scene illuminating radiation from said 3D scene as reflected radiation to said receiving array,

b3) receiving said reflected radiation with said pixels of said receiving array and producing respective operation output signals of said pixels,

b4) demodulating said respective operation output signals of said pixels with said operating demodulation signal to produce respective demodulated operation output signals of said pixels,

b5) compensating said operation output signals or said demodulated operation output signals based on said respective pixel-individual deviations determined respectively for said pixels in said step a3), and

b6) after said steps b4) and b5), determining a respective distance to a respective image point of said 3D scene respectively for each one of said pixels from said demodulated operation output signals of said pixels.

[RESPONSE CONTINUES ON NEXT PAGE]